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DIVISION OF WATER  
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LEONARD K. PETERS  
SECRETARY

**FACT SHEET**

**KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM  
PERMIT TO DISCHARGE TREATED WASTEWATER  
INTO WATERS OF THE COMMONWEALTH**

KPDES No.: KY0044181      Permit Writer: Dan Juett      Date: May 4, 2009  
AI No.: 2932

**1. SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

Marshall County Sanitation District # 2  
P. O. Box 432  
Benton, Kentucky 42025

b. Facility Location

Marshall County # 2 (Draffenville) Wastewater Treatment Plant  
Kentucky Highways 68 and 641  
Draffenville, Marshall County, Kentucky

c. Description of Applicant's Operation

City

d. Design Capacity

Existing Plant 0.0495 MGD  
Expanded Plant 0.15 MGD

e. Description of Existing Pollution Abatement Facilities

Existing Plant - treatment process consists of bar screening, an extended aeration package plant, activated sludge, rapid sand filter, and chlorination disinfection. Sludge Solids are processed by: thickening, stored in sludge tank, pumped and hauled to an approved land farm for disposal; during adverse weather conditions hauled to Paducah-McCracken JSA or Hopkinsville wastewater treatment plants for disposal.

Expanded Plant - treatment process consists of comminutor, bar screen, pump station to one of three sequence batch reactor (SBR) chambers within the SBR WWTP for biological treatment, effluent from SBR receives post aeration, flow measuring device, ultraviolet disinfection. The discharge structure consists of the existing plant 6 inch PVC line which runs under the Jackson Purchase Parkway and a 10 inch PVC line for addressing effluent from plant when the 6 inch PVC line influent flow conveyance ability is exceeded and due to wet weather conditions causing the post aeration/post equalization chamber to reach maximum level. Sludge Solids are processed by thickening with digested sludge hauled to an approved WWTP on 15 day intervals.

f. Permitting Action

This is a modification of a minor KPDES permit for a municipally/regional planning authority owned wastewater treatment plant serving a municipality. This permit is being modified to address the upgraded WWTP coming online.

**2. RECEIVING WATER**

a. Name/Mile Point

Facility discharges to an unnamed tributary to Chestnut Creek at latitude 36° 55' 32.04" and longitude 88° 20' 56.24".

b. Stream Segment Use Classification

Pursuant to 401 KAR 10:026, Section 5, the unnamed tributary to Chestnut Creek carries the following classifications: warm water aquatic habitat, primary contact recreation, secondary contact recreation, and domestic water supply.

c. Stream Segment Categorization

Pursuant to 401 KAR 10:030, Section 1 the unnamed tributary to Chestnut Creek is categorized as a "High Quality Waters".

d. Stream Low Flow Condition

The 7-day, 10-year low flow and harmonic mean conditions of the unnamed tributary to Chestnut Creek are 0.0 and 0.4 cfs, respectively.

### 3. REPORTED DISCHARGE AND PROPOSED LIMITS

Serial Number 001 - Sanitary Wastewater (Existing Design Flow = 0.0495 MGD and Expanded Design Flow = 0.15 MGD)

Effluent Characteristics	Reported Discharge		Existing Limits		Expanded Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Effluent Flow (MGD)	0.033	0.056	Report	Report	Report	Report	401 KAR 5:065, Section 2(8)
Influent Flow (MGD)	NR	NR	Report	Report	Report	Report	401 KAR 5:065, Section 2(8)
Effluent CBOD <sub>5</sub> (mg/l)	27	365	25	38	20	30	401 KAR 10:031, Section 4 401 KAR 5:045, Sections 3 and 5
Influent CBOD <sub>5</sub> (mg/l)	343	458	Report	Report	Report	Report	401 KAR 5:065, Section 2(8)
Percent Removal CBOD <sub>5</sub> (%)	83.3	85.8	85 or greater		85 or greater		40 CFR 133.102(a)(4)
Effluent TSS (mg/l)	58.6	1010	30	45	30	45	401 KAR 10:031, Section 4 401 KAR 5:045, Sections 2 and 3
Influent TSS (mg/l)	130	174	Report	Report	Report	Report	401 KAR 10:031, Section 4
Percent Removal TSS (%)	47.2	55.3	85 or greater		85 or greater		40 CFR 133.102(b)(3)
<i>Escherichia Coli</i> (N/100 ml)	717	1600	130	240	130	240	401 KAR 10:031, Section 7 401 KAR 5:045, Section 4 401 KAR 5:080, Section 1(2)(c)2
Ammonia Nitrogen (as mg/l N)							
May 1 - October 31	6.1	42	4.0	6.0	4.0	6.0	401 KAR 10:031, Section 4
November 1 - April 30	4.9	39	10.0	15.0	10.0	15.0	401 KAR 5:045, Sections 3 and 5
Dissolved Oxygen (mg/l) (minimum)	7.6	9.2	Not less than 7.0		Not less than 7.0		401 KAR 10:031, Section 4 401 KAR 5:045, Sections 3 and 5
pH (standard units)	7.1	7.96	6.0(min)	9.0(max)	6.0(min)	9.0(max)	401 KAR 10:031, Section 4 401 KAR 5:045, Section 4
Total Residual Chlorine (mg/l)	0.44	0.55	0.011	0.019	NR*	NR*	401 KAR 10:031, Section 4(k)

NR\* - means not required as Expanded Plant uses ultraviolet radiation for disinfection and total residual chlorine disinfection system no longer in use when expanded plant comes into operation.

### 3. REPORTED DISCHARGE AND PROPOSED LIMITS - SANITARY FACILITY

Serial Number 001 - Sanitary Wastewater (Existing Design Flow = 0.0495 MGD and Expanded Design Flow = 0.15 MGD)

Effluent Characteristics	Reported Discharge		Existing Limits		Expanded Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Total Phosphorus (mg/l)							
May 1 - October 31	6.4	9.46	Report	Report	1.0	2.0	401 KAR 5:065, Section 2(8)
November 1 - April 30	NR	NR	Report	Report	2.0	3.0	401 KAR 5:080, Section 1(2)(c)2
Total Nitrogen (mg/l)	34	44	Report	Report	Report	Report	401 KAR 5:065, Section 2(8)

The data contained under the reported discharge columns is not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the previous permit.

The abbreviation CBOD<sub>5</sub> means Carbonaceous Biochemical Oxygen Demand (5-day).

The abbreviation TSS means Total Suspended Solids.

The abbreviation NR means not reported on the Discharge Monitoring Report (DMR).

The effluent limitations for CBOD<sub>5</sub> and TSS are Monthly (30 day) and Weekly (7 day) Averages.

The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.

Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

4. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

a. Serial Number

Outfall 001 Sanitary Wastewater (Existing Design Flow = 0.0495 MGD and Expanded Design Flow = 0.15 MGD)

b. Effluent Characteristics

Flow(Influent/Effluent) , CBOD<sub>5</sub> (Influent/Effluent), TSS (Influent/Effluent), Fecal Coliform Bacteria, *Escherichia Coli*, pH, Ammonia Nitrogen, Dissolved Oxygen, Total Residual Chlorine (TRC), Total Phosphorus, and Total Nitrogen.

c. Pertinent Factors

This facility treats municipal wastewater and there are no industrial users or process wastewater systems connected to wastewater treatment system of the facility.

The existing facility is on the Sewer Sanction List and under an Agreed Order # 94071. The Expanded Plant will replace the Existing Plant and address the areas of its inadequacy.

d. Monitoring Requirements

Influent sampling shall be conducted at the nearest accessible point in the collection system but prior to commencement of treatment.

Effluent sampling shall be conducted at the nearest point after final treatment but prior to discharge to or mixing with the receiving waters.

**Existing Plant**

Effluent Flow monitoring shall be conducted instantaneously once per week.

CBOD<sub>5</sub> (Influent/Effluent) and TSS (Influent/Effluent) monitoring shall be conducted once per month by 24 hour composite sampling.

Percent Removal shall be determined monthly by calculation.

Ammonia Nitrogen, Total Phosphorus and Total Nitrogen shall be monitored once per month by 24 hour composite sampling.

*Escherichia Coli*, pH, Dissolved Oxygen and Total Residual Chlorine shall be monitored once per month by grab sample.

**Expanded Plant**

Effluent Flow monitoring shall be conducted continuously by recorder.

Influent Flow monitoring shall be conducted instantaneously once per week.

CBOD<sub>5</sub> (Influent/Effluent) and TSS (Influent/Effluent) monitoring shall be conducted once per week by 24 hour composite sampling.

Percent Removal shall be determined monthly by calculation.

Ammonia Nitrogen, Total Phosphorus and Total Nitrogen shall be monitored once per week by 24 hour composite sampling.

*Escherichia Coli*, pH, Dissolved Oxygen and Total Residual Chlorine shall be monitored once per week by grab sample.

e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Escherichia Coli and Fecal Coliform Bacteria

The limits for *Escherichia Coli* are consistent with the requirements of 401 KAR 10:031, Section 7, 401 KAR 5:045 Section 4 and 401 KAR 5:080, Section 1(2)(c) 2. The removal of Fecal Coliform Bacteria is consistent with the requirements of 401 KAR 5:080k Section 1 (2) (c)2. Although Fecal Coliform Bacteria has been used as an indicator of fecal contamination, it does contain other species that are not necessarily fecal in origin. EPA recommends *Escherichia Coli*, which is specific to fecal material from warm-blooded animals, as the best indicator of health risk from contact with recreational waters. Therefore, it is the "Best Professional Judgment" "BPJ" of the Division of Water that *Escherichia Coli* replace Fecal Coliform Bacteria on this permit.

Flow (Influent/Effluent)

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Influent CBOD<sub>5</sub>, Influent TSS, and Percent Removal

The monitoring requirements for influent CBOD<sub>5</sub> and influent TSS are consistent with the requirements of 401 KAR 5:065, Section 2(8). The raw influent values of these two parameters are necessary to determine compliance with the 85 percent removal requirement specified by 40 CFR 133.102 (a)(4) and (b)(3).

CBOD<sub>5</sub>, Ammonia Nitrogen, and Dissolved Oxygen

The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4, and 401 KAR 5:045, Sections 3 and 5. Section 4 of 10:031 establishes water quality criteria for the protection of Kentucky's waters. Section 5 of 5:045 requires biochemically degradable wastewaters to receive treatment in excess of secondary treatment if the Cabinet determines that the receiving water would not satisfy applicable water quality standards as a result of a facility discharge or discharges from multiple facilities.

Total Suspended Solids

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4 and 5:045, Sections 2 and 3. Section 4 of 5:031 establishes water quality criteria for the protection of Kentucky's waters. Sections 2 and 3 of 5:045 require biochemically degradable wastewaters to receive secondary treatment.

pH

The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4 and 5:045, Section 4. Section 4 of 5:031 establishes water quality criteria for the protection of Kentucky's waters. Section 4 of 5:045 establishes the acceptable levels of these parameters for biochemically degradable wastewaters.

Total Residual Chlorine

The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4.

Total Phosphorus

The limits for phosphorus are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c) 2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these pollutants.

Total Nitrogen and Total Phosphorus

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8)(a). Total Nitrogen is TKN (as N) and nitrate/nitrite (as N).

**5. ANTIDegradation**

The conditions of 401 KAR 10:029, Section 1, have been satisfied by this permit action. In 2004 the Marshall County Sanitation District No. 2 submitted a revised facility plan developed in accordance with the 401 KAR 5:006. This process included the performance of an alternatives analysis and socioeconomic demonstration by the regional planning authority. Additionally, public comment was solicited during the development process of the draft facility plan. On June 30, 2005 the Division of Water approved the proposed facility plan. Therefore, pursuant to the requirements of 401 KAR 10:030, Section 1(3)(b)5 the permittee has demonstrated compliance with these requirements of the antidegradation implementation procedures specified in 401 KAR 10:030.

**6. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS**

The permittee will comply with all effluent limitations by the effective date of the permit.

**7. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

**Annual Sewer User Surveys**

Consistent with the requirements of 401 KAR 5:057 and 401 KAR 5:080, Section 1(2)(c)2 the permittee shall conduct annual sewer user surveys to determine if conditions warrant the development and implementation of a pretreatment program. This condition is representative of the Division of Water's "Best Professional Judgment" that such surveys are necessary to demonstrate compliance with 401 KAR 5:057.

**Best Management Practices (BMP) Plan**

Pursuant to 401 KAR 5:065, Section 2(10), a BMP requirement shall be included: to control or abate the discharge of pollutants from ancillary areas containing toxic or hazardous substances or those substances which could result in an environmental emergency; where numeric effluent limitations are infeasible; or to carry out the purposes and intent of KRS 224. The facility has several areas where support activities occur which have a potential of the discharge of such substances through storm water runoff or spillage. Some of these areas will drain to present wastewater treatment plants, others will not.

**Certified Operators**

Pursuant to 401 KAR 5:010, Section 1 wastewater systems shall be operated under the supervision of a certified operator who holds a Kentucky Certificate equivalent to the class of system being supervised.

Pursuant to 401 KAR 5:010, Section 3 the certified operator shall be reasonably available if not physically present while the system is operating.

**Outfall Signage**

It is the Best Professional Judgment of the Division of Water, 401 KAR 5:080, Section 1(2)(c)2, that all permittees post a marker at all discharge locations and/or monitoring points. The marker shall be of sufficient size to display the Permittee Name, KPDES permit and outfall numbers in 2 inch letters and shall be prominently displayed. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and is to be posted as near as possible to the actual sampling location.

**Pretreatment Requirements**

Pursuant to the requirements of 40 CFR 403, July 1, 2006 as incorporated by 401 KAR 5:057, November 11, 2008 a Publicly Owned Treatment Works (POTW) is required to implement the National Pretreatment Standards to control pollutants which pass through or interfere with the treatment process of the POTW or which may contaminate the sewage sludge. These requirements include specific prohibitions and the necessity to develop and implement a Pretreatment Program if one or more specific criteria are met.



### **Sludge Disposal**

The disposal or final use of sewage sludge generated during the treatment of domestic sewage in a treatment works is subject to federal requirements specified in 40 CFR Part 503 and state requirements specified in Division of Waste Management regulations 401 KAR Chapter 45.

### **Monthly Operating Reports (MOR)**

Pursuant 401 KAR 5:065, Section 2(8)3 the permit shall incorporate monitoring requirements as appropriate to assure compliance with the permit limitations. In addition to the monitoring of effluent as specified by the permit the permittee shall conduct process control monitoring on a daily basis and record the data on a Monthly Operating Report (MOR) which shall be submitted with the Discharge Monitoring Reports. Process control monitoring is that monitoring performed by the operators of the wastewater treatment plant to determine if the wastewater system is operating at its optimum efficiency. This monitoring includes but is not limited to influent and effluent quality and quantity monitoring, chemical usage, sludge monitoring including volume produced, wasted, and disposed, and monitoring of internal units such as aeration basins and oxidation ditches.

#### **8. PERMIT DURATION**

Five (5) years. This facility is in the Four Rivers, Upper & Lower Cumberland Basin Management Unit as per the Kentucky Watershed Management Framework.

#### **9. PERMIT INFORMATION**

The application, draft permit, fact sheet, public notice, comments received and additional information is available from the Division of Water at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

#### **10. REFERENCES AND CITED DOCUMENTS**

All material and documents referenced or cited in this fact sheet are parts of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the person listed below.

#### **11. CONTACT**

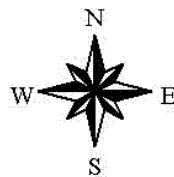
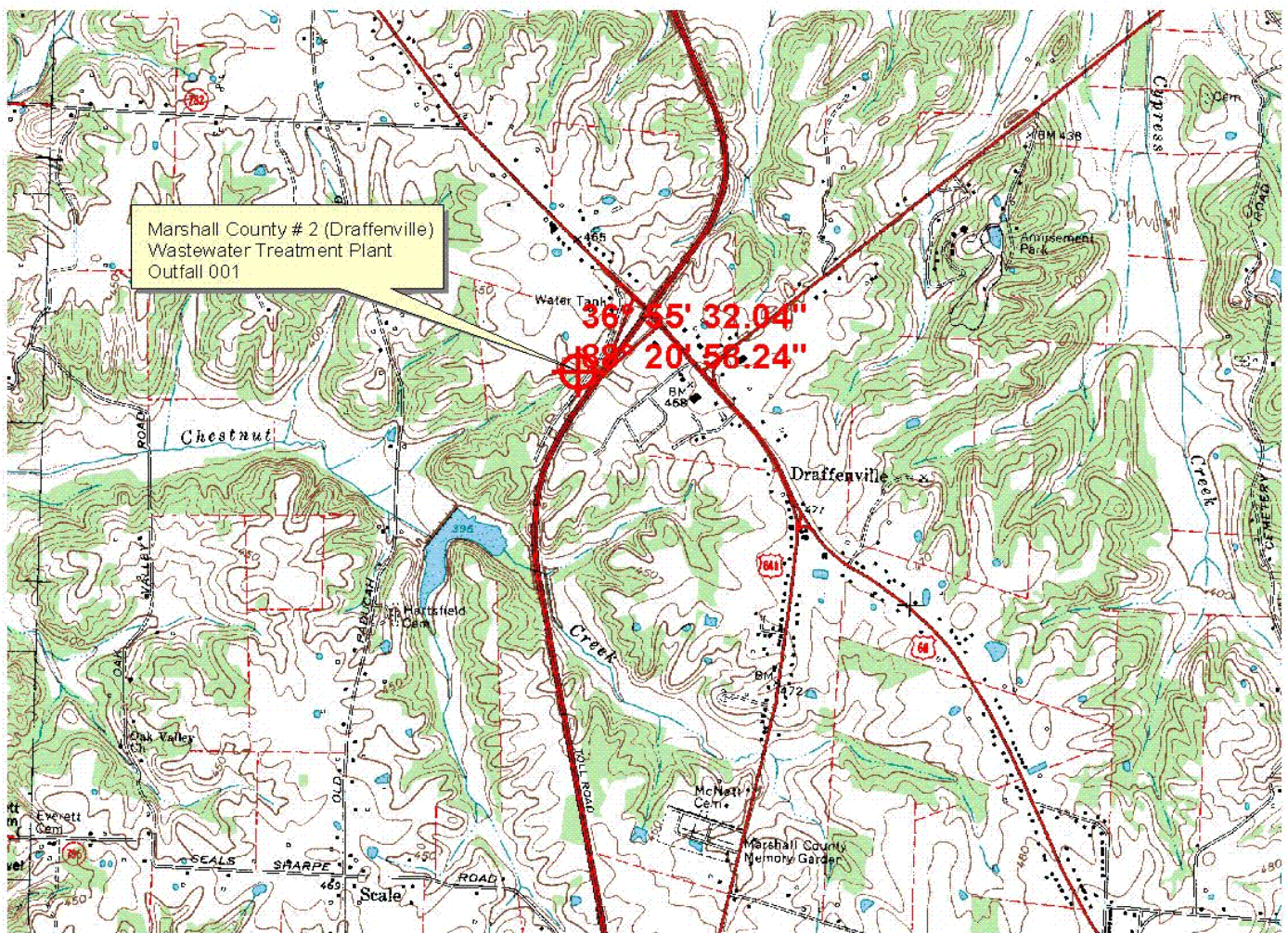
For further information on the draft permit or comment process, contact the individual identified on the Public Notice or the Permit Writer - Dan Juett at (502) 564-8158, extension 4894, or email Dan.Juett@ky.gov.

#### **12. PUBLIC NOTICE INFORMATION**

Please refer to the attached Public Notice for details regarding the procedures for a final decision, deadline for comments and other information required by 401 KAR 5:075, Section 4(2)(e).



# Marshall County # 2 (Draffenville) Wastewater Treatment Plant



# KPDES



## KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

# PERMIT

PERMIT NO.: KY0044181  
AI NO.: 2932

### AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

Marshall County Sanitation District # 2  
P. O. Box 432  
Benton, Kentucky 42025

is authorized to discharge from a facility located at

Marshall County # 2 (Draffenville) Wastewater Treatment Plant  
Kentucky Highways 68 and 641  
Draffenville, Marshall County, Kentucky

to receiving waters named

Unnamed tributary to Chestnut Creek at latitude 36° 55' 32.04" and  
longitude 88° 20' 56.24"

in accordance with effluent limitations, monitoring requirements and other conditions  
set forth in Parts I, II, III, IV, and V hereof. The permit consists of this cover  
sheet, and Part I 3 pages, Part II 1 page, Part III 1 page, Part IV 1 page, and Part  
V 3 pages.

The permit became effective on April 1, 2008.

This modified permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,  
March 31, 2013.

Date Signed

Sandra L. Gruzesky, Director  
Division of Water

## PART I A - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001 - Sanitary Wastewater (Existing Plant Design Flow = 0.0495 MGD)

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)	Other Units (Specify)			Measurement	Sample
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Frequency	Type
Effluent Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Influent Flow (MGD)	N/A	N/A	N/A	N/A	1/Month	Instantaneous
Effluent CBOD <sub>5</sub> (mg/l)	10.3	15.6	25	38	1/Month	24 Hr Composite
Influent CBOD <sub>5</sub> (mg/l)	Report	Report	Report	Report	1/Month	24 Hr Composite
Percent Removal CBOD <sub>5</sub> (%)	N/A	N/A	85 or greater		1/Month	Calculated
Effluent TSS (mg/l)	12.4	18.6	30	45	1/Month	24 Hr Composite
Influent TSS (mg/l)	Report	Report	Report	Report	1/Month	24 Hr Composite
Percent Removal TSS (%)	N/A	N/A	85 or greater		1/Month	Calculated
Ammonia Nitrogen (as mg/l N)						
May 1 - October 31	1.65	2.48	4.0	6.0	1/Month	24 Hr Composite
November 1 - April 30	4.13	6.19	10.0	15.0	1/Month	24 Hr Composite
<i>Escherichia Coli</i> (N/100 ml)	N/A	N/A	130	240	1/Month	Grab
Dissolved Oxygen (mg/l) (minimum)	N/A	N/A	Not less than	7.0	1/Month	Grab
pH (standard units)	N/A	N/A	6.0 (min)	9.0 (max)	1/Month	Grab
Total Residual Chlorine (mg/l)	N/A	N/A	0.011	0.019	1/Month	Grab
Total Phosphorus (mg/l)	N/A	N/A	Report	Report	1/Month	24 Hr Composite
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	1/Month	24 Hr Composite

The abbreviation CBOD<sub>5</sub> means Carbonaceous Biochemical Oxygen Demand (5-day).

The abbreviation TSS means Total Suspended Solids.

The abbreviation N/A means Not Applicable.

The effluent limitations for CBOD<sub>5</sub> and TSS are Monthly (30 day) and Weekly (7 day) Averages.

The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.

Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.



# **PART I A - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001 - Sanitary Wastewater (Expanded Plant Design Flow = 0.15 MGD)

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)	Other Units (Specify)			Measurement	Sample
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Frequency	Type
Effluent Flow (MGD)	Report	Report	N/A	N/A	Continuous	Recorder
Influent Flow (MGD)	Report	Report	N/A	N/A	1/Week	Instantaneous
Effluent CBOD <sub>5</sub> (mg/l)	25	37.6	20	30	1/Week	24 Hr Composite
Influent CBOD <sub>5</sub> (mg/l)	Report	Report	Report	Report	1/Week	24 Hr Composite
Percent Removal CBOD <sub>5</sub> (%)	N/A	N/A	85 or greater		1/Month	Calculated
Effluent TSS (mg/l)	37.6	56.3	30	45	1/Week	24 Hr Composite
Influent TSS (mg/l)	Report	Report	Report	Report	1/Week	24 Hr Composite
Percent Removal TSS (%)	N/A	N/A	85 or greater		1/Month	Calculated
Ammonia Nitrogen (as mg/l N)						
May 1 - October 31	5.01	7.51	4.0	6.0	1/Week	24 Hr Composite
November 1 - April 30	12.52	18.78	10.0	15.0	1/Week	24 Hr Composite
<i>Escherichia Coli</i> (N/100 ml)	N/A	N/A	130	240	1/Week	Grab
Dissolved Oxygen (mg/l) (minimum)	N/A	N/A	Not less than	7.0	1/Week	Grab
pH (standard units)	N/A	N/A	6.0 (min)	9.0 (max)	1/Week	Grab
Total Phosphorus (mg/l)						
May 1 - October 31	N/A	N/A	1.0	2.0	1/Week	24 Hr Composite
November 1 - April 30	N/A	N/A	2.0	3.0	1/Week	24 Hr Composite
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	1/Week	24 Hr Composite

The abbreviation CBOD<sub>5</sub> means Carbonaceous Biochemical Oxygen Demand (5-day).

The abbreviation TSS means Total Suspended Solids.

The abbreviation N/A means Not Applicable.

The effluent limitations for CBOD<sub>5</sub> and TSS are Monthly (30 day) and Weekly (7 day) Averages.

The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.

Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

**PART I B - SCHEDULE OF COMPLIANCE**

The permittee shall achieve compliance with all requirements on the effective date of this permit.

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**PART II - STANDARD CONDITIONS FOR KPDES PERMIT**

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

The permittee is also advised that all KPDES permit conditions in KPDES Regulation 401 KAR 5:065, Section 1 will apply to all discharges authorized by this permit.

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### **PART III - OTHER REQUIREMENTS**

#### **A. Reporting of Monitoring Results**

Monitoring results obtained during each monitoring period must be reported on a preprinted Discharge Monitoring Report (DMR) Form that will be mailed to you. The completed DMR for each monitoring period must be sent to the Division of Water at the address listed below (with a copy to the appropriate Regional Office) postmarked no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

Division of Water  
Paducah Regional Office  
130 Eagle Nest Drive  
Paducah, Kentucky 42003  
ATTN: Supervisor

Division of Water  
Surface Water Permits Branch  
Permit Support Section  
200 Fair Oaks Lane  
Frankfort, Kentucky 40601

#### **B. Reopener Clause**

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under 401 KAR 5:050 through 5:086, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

#### **C. Sludge Disposal**

The disposal or final use of sewage sludge generated during the treatment of domestic sewage in a treatment works shall be disposed of in accordance with federal requirements specified in 40 CFR Part 503 and state requirements specified in Division of Waste Management regulations 401 KAR Chapter 45.

#### **D. Certified Operators**

The existing wastewater system shall be operated under the supervision of a Class I and the expanded wastewater system shall be operated under the supervision of a Class II Kentucky Certified Operator who shall be reasonably available at all times.

#### **E. Monthly Operating Reports**

In addition to the monitoring of effluent as specified by the permit the permittee shall conduct process control monitoring on a daily basis and record the data on a Monthly Operating Report (MOR) which shall be submitted with the Discharge Monitoring Reports. Process control monitoring is that monitoring performed by the operators of the wastewater treatment plant to determine if the wastewater system is operating at its optimum efficiency. This monitoring includes but is not limited to influent and effluent quality and quantity monitoring, chemical usage, sludge monitoring including volume produced, wasted, and disposed, and monitoring of internal units such as aeration basins and oxidation ditches.

#### **F. Outfall Signage**

The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be of sufficient size to display the Permittee Name, KPDES permit and outfall numbers in 2 inch letters and shall be prominently displayed. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location.



## **PART IV - PRETREATMENT REQUIREMENTS**

### **A. Annual Sewer User Surveys**

The permittee shall conduct annual sewer user surveys to determine if conditions warrant the development and implementation of a pretreatment program. An annual report listing the industrial users, the manufacturing processes, the nature and volume of flow and any problems caused by the users shall be submitted no later than December 31 of each year, unless otherwise specified by the Division of Water.

### **B. Necessity to Develop and Implement a Pretreatment Program**

POTWs which meet one or more of the following criteria are required to develop, submit for approval, and implement specific Pretreatment Program Requirements.

A POTW or combination of POTWs operated by the same authority, with a total design flow greater than five (5) million gallons per day (MGD) and receiving from industrial users which pass through or interfere with the operation of the POTW, or are otherwise subject to pretreatment standards.

A POTW with a design flow of five (5) MGD or less shall develop a pretreatment program if the cabinet determines that the nature or volume of the industrial wastewaters, upsets of the treatment process, violations of the POTW effluent limitations, contamination of municipal sludge or other circumstances warrant to prevent interference with the POTW or pass through.

### **C. Prohibited Discharges**

The following are prohibit from being discharged to the POTW.

- ❖ Pollutants which create a fire or explosion hazard in the POTW;
- ❖ Pollutants which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;
- ❖ Solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers, or other interference with operation of the POTW;
- ❖ Any pollutant, including oxygen demanding pollutants (BOD<sub>5</sub>, etc.), released in a discharge at such a volume or strength as to cause interference in the POTW;
- ❖ Heat in amounts, which will inhibit biological activity in the POTW, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104o F (40o C);
- ❖ Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through;
- ❖ Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and,
- ❖ Any trucked or hauled waste except, at discharge points designated by the POTW.

## **PART V - BEST MANAGEMENT PRACTICES**

### **SECTION A. GENERAL CONDITIONS**

#### **1. Applicability**

These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as: (1) toxic under Section 307(a)(1) of the Clean Water Act; (2) oil, as defined in Section 311(a)(1) of the Act; (3) any pollutant listed as hazardous under Section 311 of the Act; or (4) is defined as a pollutant pursuant to KRS 224.01-010(35) and who have ancillary manufacturing operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.01-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

#### **2. BMP Plan**

The permittee shall develop and implement a Best Management Practices (BMP) plan consistent with 401 KAR 5:065, Section 2(10) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through plant site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage. A Best Management Practices (BMP) plan will be prepared by the permittee unless the permittee can demonstrate through the submission of a BMP outline that the elements and intent of the BMP have been fulfilled through the use of existing plans such as the Spill Prevention Control and Countermeasure (SPCC) plans, contingency plans, and other applicable documents.

#### **3. Implementation**

If this is the first time for the BMP requirement, then the plan shall be developed and submitted to the Division of Water within 90 days of the effective date of the permit. Implementation shall be within 180 days of that submission. For permit renewals the plan in effect at the time of permit reissuance shall remain in effect. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be submitted to the Division of Water and implemented as soon as possible.

#### **4. General Requirements**

The BMP plan shall:

- a. Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.
- b. Establish specific objectives for the control of toxic and hazardous pollutants.
  - (1) Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants," the plan should include a prediction of the direction, rate of flow, and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.

- c. Establish specific Best Management Practices to meet the objectives identified under paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants."
- d. Include any special conditions established in part b of this section.
- e. Be reviewed by plant engineering staff and the plant manager.

5. Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document," and shall include the following baseline BMPs as a minimum.

- a. BMP Committee
- b. Reporting of BMP Incidents
- c. Risk Identification and Assessment
- d. Employee Training
- e. Inspections and Records
- f. Preventive Maintenance
- g. Good Housekeeping
- h. Materials Compatibility
- i. Security
- j. Materials Inventory

6. SPCC Plans

The BMP plan may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 151, and may incorporate any part of such plans into the BMP plan by reference.

7. Hazardous Waste Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

8. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available upon request to NREPC personnel. Initial copies and modifications thereof shall be sent to the following addresses when required by Section 3:

Division of Water  
Paducah Regional Office  
130 Eagle Nest Drive  
Paducah, Kentucky 42003  
ATTN: Supervisor

Division of Water  
Surface Water Permits Branch  
Permit Support Section  
200 Fair Oaks Lane  
Frankfort, Kentucky 40601

9. BMP Plan Modification

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of "BMP pollutants."

10. Modification for Ineffectiveness

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of "BMP pollutants," then the specific objectives and requirements under paragraphs b and c of Section 4, the permit, and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements. If at any time following the issuance of this permit the BMP plan is found to be inadequate pursuant to a state or federal site inspection or plan review, the plan shall be modified to incorporate such changes necessary to resolve the concerns.

SECTION B. SPECIFIC CONDITIONS

Periodically Discharged Wastewaters Not Specifically Covered By Effluent Conditions

The permittee shall include in this BMP plan procedures and controls necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, water associated with demolition projects, etc.